

Region 4 Laboratory Services and Applied Science Division 980 College Station Road, Athens, Georgia 30605-2700

D.A.R.T. Id: 19-0113

Project: 19-0113, Rockwell International Wheel & Trim - Reported by Daniel Adams

May 8, 2019

4LSASD-LSB

MEMORANDUM

SUBJECT: FINAL Analytical Report

Project: 19-0113, Rockwell International Wheel & Trim

FROM: Daniel Adams

ICS Analyst

THRU: Floyd Wellborn, Chief

LSB Inorganic Chemistry Section

TO: Shelby Johnston

Attached are the final results for the analytical groups listed below. This report shall not be reproduced except in full without approval of the Region 4 laboratory. These analyses were performed in accordance with the Laboratory Services Branch's Laboratory Operations and Quality Assurance Manual (LSB LOQAM) found at www.epa.gov/region4/sesd/asbsop. Any unique project data quality objectives specified in writing by the data requestor have also been incorporated into the data unless otherwise noted in the Report Narrative. Chemistry data have been verified based on the LSB LOQAM specifications and have been qualified by this laboratory if the applicable quality control criteria were not met. Verification is defined in Chapter 5 of the LSB LOQAM. For a listing of specific data qualifiers and explanations, please refer to the Data Qualifier Definitions included in this report. The reported results are accurate within the limits of the method(s) and are representative only of the samples as received by the laboratory.

Analyses Included in this report:	Method Used:	Accreditations:
Classical/Nutrient Analyses (CNA)		
Classical/Nutrients	ASB 107C (Soil)	ISO
Classical/Nutrients	EPA 300.0 (Water)	ISO
Classical/Nutrients	SM 2320B (Water)	ISO
Classical/Nutrients	SM 5310B (Water)	ISO
Nitrate and/or Nitrite	EPA 353.2 (Water)	ISO



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Sample Disposal Policy

Due to limited space for long term sample storage, LSB's policy is to dispose of samples on a periodic schedule. Air samples collected in summa canisters will be disposed of 30 days following the issuance of this report. All other sample media including original samples, sample extracts and or digestates will be disposed of, in accordance with applicable regulations, 60 days from the date of this report.

This sample disposal policy does not apply to criminal samples which are held until the laboratory is notified by the criminal investigators that case development and litigation are complete.

These samples may be held in the laboratory's custody for a longer period of time. If samples require storage beyond the 60-day period, please contact the Sample Control Coordinator by e-mail at R4SampleCustody@epa.gov.

cc: Nardina Turner



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SAMPLES INCLUDED IN THIS REPORT

Project: 19-0113, Rockwell International Wheel & Trim

Sample ID	Laboratory ID	Matrix	Date Collected	Date Received
MiHPT29SB20	E191309-01	Subsurface Soil	3/27/19 11:25	3/29/19 10:30
MiHPT31GW29	E191309-02	Groundwater	3/26/19 18:20	3/29/19 10:30
MIHPT29GW_24	E191401-01	Groundwater	3/29/19 13:30	4/2/19 10:20
MIHPT33GW_29	E191401-02	Groundwater	3/30/19 09:35	4/2/19 10:20
MIHPT35GW_27	E191401-04	Groundwater	3/29/19 09:25	4/2/19 10:20
MIHPT41GW_24	E191401-05	Groundwater	3/31/19 13:25	4/2/19 10:20
MIHPT41SB_24	E191401-06	Subsurface Soil	4/1/19 09:45	4/2/19 10:20
MIHPT45GW_24	E191401-07	Groundwater	3/31/19 13:10	4/2/19 10:20
MIHPT45GW_38	E191401-08	Groundwater	3/31/19 14:15	4/2/19 10:20
MIHPT45GW_46	E191401-09	Groundwater	3/31/19 11:15	4/2/19 10:20
MIHPT945GW_46	E191401-10	Groundwater	3/31/19 11:15	4/2/19 10:20
MIHPT49SB_14	E191401-12	Subsurface Soil	4/1/19 15:50	4/2/19 10:20
MIHPT34GW_22	E191404-01	Groundwater	4/1/19 15:17	4/3/19 10:45
MIHPT34GW_26	E191404-02	Groundwater	4/1/19 18:00	4/3/19 10:45
MIHPT49GW_21	E191404-03	Groundwater	4/2/19 10:10	4/3/19 10:45
MIHPT49GW_41	E191404-04	Groundwater	4/2/19 09:00	4/3/19 10:45
MIHPT28SB_5	E191408-02	Subsurface Soil	4/3/19 07:45	4/5/19 10:45
MIHPT28SB_7	E191408-03	Subsurface Soil	4/3/19 08:00	4/5/19 10:45
MIHPT39GW_30	E191408-05	Groundwater	4/3/19 13:20	4/5/19 10:45
MIHPT53SB_24	E191408-07	Subsurface Soil	4/3/19 14:00	4/5/19 10:45
MIHPT55SB_5	E191408-08	Subsurface Soil	4/3/19 07:25	4/5/19 10:45
MIHPT56SB_6	E191408-09	Subsurface Soil	4/3/19 16:45	4/5/19 10:45
MIHPT53GW_24	E191502-06	Groundwater	4/4/19 12:40	4/9/19 10:20



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DATA QUALIFIER DEFINITIONS

U The analyte was not detected at or above the reporting limit.

J The identification of the analyte is acceptable; the reported value is an estimate.

OM-1 Matrix Spike Recovery less than method control limits

ACRONYMS AND ABBREVIATIONS

CAS Chemical Abstracts Service

Note: Analytes with no known CAS identifiers have been assigned codes beginning with "E", the EPA ID as assigned by the EPA Substance Registry System (www.epa.gov/srs), or beginning with "R4-", a unique identifier assigned by the EPA Region 4 laboratory.

- MDL Method Detection Limit The minimum concentration of a substance (an analyte) that can be measured and reported with a 99% confidence that the analyte concentration is greater than zero.
- MRL Minimum Reporting Limit Analyte concentration that corresponds to the lowest demonstrated level of acceptable quantitation. The MRL is sample-specific and accounts for preparation weights and volumes, dilutions, and moisture content of soil/sediments.
- TIC Tentatively Identified Compound An analyte identified based on a match with the instrument software's mass spectral library. A calibration standard has not been analyzed to confirm the compound's identification or the estimated concentration reported.

ACCREDITATIONS:

ISO ASB is accredited by ISO/IEC 17025, including an amplification for forensic accreditation through ANSI-ASQ National Accreditation Board.

Refer to the certificate and scope of accreditation AT-1644 at: http://www.epa.gov/aboutepa/about-region-4s-science-and-ecosystem-support-division-sesd

NR The EPA Region 4 Laboratory has not requested accreditation for this test.



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Classical/Nutrient Analyses

Project: 19-0113, Rockwell International Wheel & Trim

Sample ID: MiHPT29SB20 Lab ID: E191309-01
Station ID: MIHPT29 Matrix: Subsurface Soil

Date Collected: 3/27/19 11:25

CAS Number	Analyte	Results Qualifiers	Units	MRL	Prepared	Analyzed M	ethod
E701250	Total Organic Carbon	12000 U	mg/kg dry	12000	4/19/19 11:19	4/25/19 12:00 AS	SB 107C



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Classical/Nutrient Analyses

Project: 19-0113, Rockwell International Wheel & Trim

Sample ID: MiHPT31GW29 Lab ID: E191309-02
Station ID: MIHPT31 Matrix: Groundwater

Date Collected: 3/26/19 18:20

CAS Number	Analyte	Results Qualifiers	Units	MRL	Prepared	Analyzed	Method
E1640192	Alkalinity, Total (as CaCO3)	32	mg/L	1.0	4/04/19 8:19	4/04/19 8:19	SM 2320B
14808-79-8	Sulfate as SO4	45	mg/L	0.10	4/10/19 14:59	4/15/19 17:51	EPA 300.0
E701250	Total Organic Carbon	1.4	mg/L	1.0	4/15/19 11:56	4/17/19 12:20	SM 5310B
E701177	Nitrate/Nitrite as N	0.38	mg/L	0.050	4/16/19 11:04	4/17/19 15:43	EPA 353.2



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Classical/Nutrient Analyses

Project: 19-0113, Rockwell International Wheel & Trim

Sample ID: MIHPT29GW 24 Lab ID: E191401-01
Station ID: MIHPT29GW

Matrix: Groundwater

Date Collected: 3/29/19 13:30

CAS Number	Analyte	Results Qualifiers	Units	MRL	Prepared	Analyzed	Method
E1640192	Alkalinity, Total (as CaCO3)	56	mg/L	1.0	4/04/19 8:19	4/04/19 8:19	SM 2320B
14808-79-8	Sulfate as SO4	66	mg/L	0.10	4/10/19 14:59	4/15/19 18:54	EPA 300.0
E701250	Total Organic Carbon	1.4 J, QM-1	mg/L	1.0	4/15/19 11:56	4/17/19 13:36	SM 5310B
E701177	Nitrate/Nitrite as N	0.15	mg/L	0.050	4/16/19 11:04	4/17/19 15:43	EPA 353.2



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Project: 19-0113, Rockwell International Wheel & Trim

Sample ID: MIHPT33GW 29 Lab ID: E191401-02
Station ID: MIHPT33GW

Matrix: Groundwater

Date Collected: 3/30/19 9:35

Date Con							
CAS Number	Analyte	Results Qualifiers	Units	MRL	Prepared	Analyzed	Method
E1640192	Alkalinity, Total (as CaCO3)	54	mg/L	1.0	4/04/19 8:19	4/04/19 8:19	SM 2320B
14808-79-8	Sulfate as SO4	47	mg/L	0.10	4/10/19 14:59	4/15/19 19:15	EPA 300.0
E701250	Total Organic Carbon	1.0 U	mg/L	1.0	4/15/19 11:56	4/17/19 14:03	SM 5310B
E701177	Nitrate/Nitrite as N	0.050 U	mg/L	0.050	4/16/19 11:04	4/17/19 15:43	EPA 353.2



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Project: 19-0113, Rockwell International Wheel & Trim

Sample ID: MIHPT35GW 27 Lab ID: E191401-04
Station ID: MIHPT35GW

Matrix: Groundwater

Date Collected: 3/29/19 9:25

CAS Number	Analyte	Results Qualifiers	Units	MRL	Prepared	Analyzed	Method
E1640192	Alkalinity, Total (as CaCO3)	35	mg/L	1.0	4/04/19 8:19	4/04/19 8:19	SM 2320B
14808-79-8	Sulfate as SO4	29	mg/L	0.10	4/10/19 14:59	4/15/19 19:36	EPA 300.0
E701250	Total Organic Carbon	1.0 U	mg/L	1.0	4/15/19 11:56	4/17/19 14:20	SM 5310B
E701177	Nitrate/Nitrite as N	0.084	mg/L	0.050	4/16/19 11:04	4/17/19 15:43	EPA 353.2



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Project: 19-0113, Rockwell International Wheel & Trim

Sample ID: MIHPT41GW 24 Lab ID: E191401-05
Station ID: MIHPT41GW
Matrix: Groundwater

Date Collected: 3/31/19 13:25

CAS Number	Analyte	Results	Qualifiers	Units	MRL	Prepared	Analyzed	Method
E1640192	Alkalinity, Total (as CaCO3)	44		mg/L	1.0	4/04/19 8:19	4/04/19 8:19	SM 2320B
14808-79-8	Sulfate as SO4	42		mg/L	0.10	4/10/19 14:59	4/15/19 19:57	EPA 300.0
E701250	Total Organic Carbon	2.0		mg/L	1.0	4/15/19 11:56	4/17/19 14:45	SM 5310B
E701177	Nitrate/Nitrite as N	0.068		mg/L	0.050	4/16/19 11:04	4/17/19 15:43	EPA 353.2



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Project: 19-0113, Rockwell International Wheel & Trim

Sample ID: MIHPT41SB 24 Lab ID: E191401-06
Station ID: MIHPT41SB Matrix: Subsurface Soil

Date Collected: 4/1/19 9:45

CAS Number	Analyte	Results Qualifiers	Units	MRL	Prepared	Analyzed .	Method
E701250	Total Organic Carbon	12000 U	mg/kg dry	12000	4/19/19 11:19	4/25/19 12:00	ASB 107C



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Project: 19-0113, Rockwell International Wheel & Trim

Sample ID: MIHPT45GW 24 Lab ID: E191401-07
Station ID: MIHPT45GW
Matrix: Groundwater

Date Collected: 3/31/19 13:10

CAS							
Number	Analyte	Results Qualifiers	Units	MRL	Prepared	Analyzed	Method
E1640192	Alkalinity, Total (as CaCO3)	58	mg/L	1.0	4/04/19 8:19	4/04/19 8:19	SM 2320B
14808-79-8	Sulfate as SO4	50	mg/L	0.10	4/10/19 14:59	4/15/19 20:18	EPA 300.0
E701250	Total Organic Carbon	1.7	mg/L	1.0	4/15/19 11:56	4/17/19 15:10	SM 5310B
E701177	Nitrate/Nitrite as N	0.050 U	mg/L	0.050	4/16/19 11:04	4/17/19 15:43	EPA 353.2



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Project: 19-0113, Rockwell International Wheel & Trim

Sample ID: MIHPT45GW 38 Lab ID: E191401-08
Station ID: MIHPT45GW
Matrix: Groundwater

Date Collected: 3/31/19 14:15

CAS Number	Analyte	Results Qualifiers	Units	MRL	Prepared	Analyzed	Method
E1640192	Alkalinity, Total (as CaCO3)	55	mg/L	1.0	4/04/19 8:19	4/04/19 8:19	SM 2320B
14808-79-8	Sulfate as SO4	51	mg/L	0.10	4/10/19 14:59	4/15/19 20:39	EPA 300.0
E701250	Total Organic Carbon	1.8	mg/L	1.0	4/15/19 11:56	4/17/19 15:37	SM 5310B
E701177	Nitrate/Nitrite as N	0.050 U	mg/L	0.050	4/16/19 11:04	4/17/19 15:43	EPA 353.2



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Project: 19-0113, Rockwell International Wheel & Trim

Sample ID: MIHPT45GW 46 Lab ID: E191401-09
Station ID: MIHPT45GW
Matrix: Groundwater

Date Collected: 3/31/19 11:15

CAG							
CAS Number	Analyte	Results Qualifiers	Units	MRL	Prepared	Analyzed	Method
E1640192	Alkalinity, Total (as CaCO3)	55	mg/L	1.0	4/04/19 8:19	4/04/19 8:19	SM 2320B
14808-79-8	Sulfate as SO4	43	mg/L	0.10	4/10/19 14:59	4/15/19 21:00	EPA 300.0
E701250	Total Organic Carbon	2.7 J	mg/L	1.0	4/15/19 11:56	4/17/19 16:01	SM 5310B
E701177	Nitrate/Nitrite as N	0.050 U	mg/L	0.050	4/16/19 11:04	4/17/19 15:43	EPA 353.2



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Project: 19-0113, Rockwell International Wheel & Trim

Sample ID: MIHPT945GW 46 Lab ID: E191401-10
Station ID: MIHPT45GW Matrix: Groundwater

Date Collected: 3/31/19 11:15

CAS Number	Analyte	Results Qualifiers	Units	MRL	Prepared	Analyzed	Method
E1640192	Alkalinity, Total (as CaCO3)	55	mg/L	1.0	4/04/19 8:19	4/04/19 8:19	SM 2320B
14808-79-8	Sulfate as SO4	42	mg/L	0.10	4/10/19 14:59	4/15/19 21:21	EPA 300.0
E701250	Total Organic Carbon	1.7 J	mg/L	1.0	4/15/19 11:56	4/17/19 16:26	SM 5310B
E701177	Nitrate/Nitrite as N	0.050 U	mg/L	0.050	4/16/19 11:04	4/17/19 15:43	EPA 353.2



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Classical/Nutrient Analyses

Project: 19-0113, Rockwell International Wheel & Trim

Sample ID: MIHPT49SB 14 Lab ID: E191401-12
Station ID: MIHPT49SB Matrix: Subsurface Soil

Date Collected: 4/1/19 15:50

CAS Number	Analyte	Results Qualifiers	Units	MRL	Prepared	Analyzed	Method
E701250	Total Organic Carbon	12000 U	mg/kg dry	12000	4/19/19 11:19	4/25/19 12:00	ASB 107C



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Classical/Nutrient Analyses

Project: 19-0113, Rockwell International Wheel & Trim

Sample ID: MIHPT34GW 22 Lab ID: E191404-01
Station ID: MIHPT34GW

Matrix: Groundwater

Date Collected: 4/1/19 15:17

CAS							
Number	Analyte	Results Qualifiers	Units	MRL	Prepared	Analyzed	Method
E1640192	Alkalinity, Total (as CaCO3)	49	mg/L	1.0	4/04/19 8:19	4/04/19 8:19	SM 2320B
14808-79-8	Sulfate as SO4	80	mg/L	0.10	4/10/19 14:59	4/15/19 22:46	EPA 300.0
E701250	Total Organic Carbon	1.7	mg/L	1.0	4/15/19 11:56	4/17/19 18:01	SM 5310B
E701177	Nitrate/Nitrite as N	2.0	mg/L	0.10	4/16/19 11:04	4/17/19 15:43	EPA 353.2



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Project: 19-0113, Rockwell International Wheel & Trim

Sample ID: MIHPT34GW 26
Station ID: MIHPT34GW

Matrix: Groundwater

Date Collected: 4/1/19 18:00

CAG							
CAS Number	Analyte	Results Qualifiers	Units	MRL	Prepared	Analyzed	Method
E1640192	Alkalinity, Total (as CaCO3)	42	mg/L	1.0	4/04/19 8:19	4/04/19 8:19	SM 2320B
14808-79-8	Sulfate as SO4	57	mg/L	0.10	4/10/19 14:59	4/15/19 23:28	EPA 300.0
E701250	Total Organic Carbon	1.0 U	mg/L	1.0	4/15/19 11:56	4/17/19 19:03	SM 5310B
E701177	Nitrate/Nitrite as N	0.58	mg/L	0.050	4/16/19 11:04	4/17/19 15:43	EPA 353.2



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Classical/Nutrient Analyses

Project: 19-0113, Rockwell International Wheel & Trim

Sample ID: MIHPT49GW 21 Lab ID: E191404-03
Station ID: MIHPT49GW
Matrix: Groundwater

Date Collected: 4/2/19 10:10

Date Con							
CAS Number	Analyte	Results Qualifiers	Units	MRL	Prepared	Analyzed	Method
E1640192	Alkalinity, Total (as CaCO3)	130	mg/L	1.0	4/04/19 8:19	4/04/19 8:19	SM 2320B
14808-79-8	Sulfate as SO4	44	mg/L	0.10	4/10/19 14:59	4/15/19 23:49	EPA 300.0
E701250	Total Organic Carbon	1.4	mg/L	1.0	4/15/19 11:56	4/17/19 19:30	SM 5310B
E701177	Nitrate/Nitrite as N	0.97	mg/L	0.050	4/16/19 11:04	4/17/19 15:43	EPA 353.2



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Project: 19-0113, Rockwell International Wheel & Trim

Sample ID: MIHPT49GW 41 Lab ID: E191404-04
Station ID: MIHPT49GW
Matrix: Groundwater

Date Collected: 4/2/19 9:00

CAS Number	Analyte	Results Qualifiers	Units	MRL	Prepared	Analyzed	Method
E1640192	Alkalinity, Total (as CaCO3)	71	mg/L	1.0	4/04/19 8:19	4/04/19 8:19	SM 2320B
14808-79-8	Sulfate as SO4	15	mg/L	0.10	4/10/19 14:59	4/16/19 0:10	EPA 300.0
E701250	Total Organic Carbon	1.3	mg/L	1.0	4/15/19 11:56	4/17/19 19:55	SM 5310B
E701177	Nitrate/Nitrite as N	0.050 U	mg/L	0.050	4/16/19 11:04	4/17/19 15:43	EPA 353.2



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Classical/Nutrient Analyses

Project: 19-0113, Rockwell International Wheel & Trim

Sample ID: MIHPT28SB 5

Station ID: MIHPT28SB

Matrix: Subsurface Soil

Date Collected: 4/3/19 7:45

CAS Number	Analyte	Results Qualifiers	Units	MRL	Prepared	Analyzed	Method
E701250	Total Organic Carbon	12000 U	mg/kg dry	12000	4/19/19 11:19	4/25/19 12:00	ASB 107C



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Classical/Nutrient Analyses

Project: 19-0113, Rockwell International Wheel & Trim

Sample ID: MIHPT28SB 7 Lab ID: E191408-03
Station ID: MIHPT28SB Matrix: Subsurface Soil

Date Collected: 4/3/19 8:00

CAS Number	Analyte	Results Qualifiers	Units	MRL	Prepared	Analyzed	Method
E701250	Total Organic Carbon	12000 U	mg/kg dry	12000	4/19/19 11:19	4/25/19 12:00	ASB 107C



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Classical/Nutrient Analyses

Project: 19-0113, Rockwell International Wheel & Trim

Sample ID: MIHPT39GW 30 Lab ID: E191408-05
Station ID: MIHPT39GW
Matrix: Groundwater

Date Collected: 4/3/19 13:20

Date Con							
CAS Number	Analyte	Results Qualifiers	Units	MRL	Prepared	Analyzed	Method
E1640192	Alkalinity, Total (as CaCO3)	49	mg/L	1.0	4/09/19 8:14	4/09/19 8:14	SM 2320B
14808-79-8	Sulfate as SO4	27	mg/L	0.10	4/10/19 14:59	4/16/19 0:52	EPA 300.0
E701250	Total Organic Carbon	1.2	mg/L	1.0	4/15/19 11:56	4/17/19 20:19	SM 5310B
E701177	Nitrate/Nitrite as N	0.050 U	mg/L	0.050	4/16/19 11:04	4/17/19 15:43	EPA 353.2



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D.A.R.T. Id: 19-0113

Project: 19-0113, Rockwell International Wheel & Trim - Reported by Daniel Adams

Classical/Nutrient Analyses

Project: 19-0113, Rockwell International Wheel & Trim

Sample ID: MIHPT53SB 24 Lab ID: E191408-07
Station ID: MIHPT53SB Matrix: Subsurface Soil

Date Collected: 4/3/19 14:00

CAS Number	Analyte	Results Qualifiers	Units	MRL	Prepared	Analyzed	Method
E701250	Total Organic Carbon	12000 U	mg/kg dry	12000	4/19/19 11:19	4/25/19 12:00	ASB 107C



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Classical/Nutrient Analyses

Project: 19-0113, Rockwell International Wheel & Trim

Sample ID: MIHPT55SB 5

Station ID: MIHPT55SB

Lab ID: E191408-08

Matrix: Subsurface Soil

Date Collected: 4/3/19 7:25

CAS Number	Analyte	Results Qualifiers	Units	MRL	Prepared	Analyzed	Method
E701250	Total Organic Carbon	12000 U	mg/kg dry	12000	4/19/19 11:19	4/25/19 12:00	ASB 107C



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Classical/Nutrient Analyses

Project: 19-0113, Rockwell International Wheel & Trim

Sample ID: MIHPT56SB 6 Lab ID: E191408-09
Station ID: MIHPT56SB Matrix: Subsurface Soil

Date Collected: 4/3/19 16:45

CAS Number	Analyte	Results Qualifiers	Units	MRL	Prepared	Analyzed	Method
E701250	Total Organic Carbon	12000 U	mg/kg dry	12000	4/19/19 11:19	4/25/19 12:00	ASB 107C



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Classical/Nutrient Analyses

Project: 19-0113, Rockwell International Wheel & Trim

Sample ID: MIHPT53GW 24 Lab ID: E191502-06
Station ID: MIHPT53GW

Matrix: Groundwater

Date Collected: 4/4/19 12:40

Dute con	10000 4/4/17 12.40						
CAS Number	Analyte	Results Qualifiers	Units	MRL	Prepared	Analyzed	Method
E1640192	Alkalinity, Total (as CaCO3)	39	mg/L	1.0	4/15/19 8:08	4/15/19 8:08	SM 2320B
14808-79-8	Sulfate as SO4	41	mg/L	0.10	4/10/19 14:59	4/16/19 1:34	EPA 300.0
E701250	Total Organic Carbon	2.0	mg/L	1.0	4/15/19 11:56	4/17/19 20:44	SM 5310B
E701177	Nitrate/Nitrite as N	0.66	mg/L	0.050	4/16/19 11:04	4/17/19 15:43	EPA 353.2



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Project: 19-0113, Rockwell International Wheel & Trim - Reported by Daniel Adams

Analyte	Reporting Result Limit Un		Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1904014 - C 2320B Alkalinity										
Blank (1904014-BLK1)				Prepared &	Analyzed:	04/04/19				
SM 2320B				F						
Alkalinity, Total (as CaCO3)	U	1.0	mg/L							U
LCS (1904014-BS1)				Prepared &	z Analyzed:	04/04/19				
SM 2320B Alkalinity, Total (as CaCO3)	52.918	1.0	mg/L	50.000		106	93-114			
LCS Dup (1904014-BSD1)				Prepared &	z Analyzed:	04/04/19				
SM 2320B				-						
Alkalinity, Total (as CaCO3)	52.540	1.0	mg/L	50.000		105	93-114	0.717	10	
Duplicate (1904014-DUP1)	Sourc	e: E191401-	04	Prepared &	z Analyzed:	04/04/19				
SM 2320B										
Alkalinity, Total (as CaCO3)	35.228	1.0	mg/L		34.892			0.958	10	
Duplicate (1904014-DUP2)	Sourc	e: E191403-	04	Prepared &	z Analyzed:	04/04/19				
SM 2320B Alkalinity, Total (as CaCO3)	30.563	1.0	mg/L		30.755			0.626	10	
MDV V. (6. (1. (1004014 PG1)				D 10		04/04/10				
MRL Verification (1904014-PS1)				Prepared &	Analyzed:	04/04/19				
SM 2320B Alkalinity, Total (as CaCO3)	1.0020	1.0	mg/L	1.0000		100	73-134			MRL-2
Batch 1904026 - C 2320B Alkalinity										
Blank (1904026-BLK1)				Prepared &	z Analyzed:	04/09/19				
SM 2320B										
Alkalinity, Total (as CaCO3)	U	1.0	mg/L							U
LCS (1904026-BS1)				Prepared &	z Analyzed:	04/09/19				
SM 2320B										
Alkalinity, Total (as CaCO3)	51.550	1.0	mg/L	50.000		103	93-114			
LCS Dup (1904026-BSD1)				Prepared &	Analyzed:	04/09/19				
SM 2320B Alkalinity, Total (as CaCO3)	51.704	1.0	mg/L	50.000		103	93-114	0.298	10	
Amaning, Total (as CaCO)	31./07	1.0	mg/L	50.000		103	JJ~11 T	0.290	10	



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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1904026 - C 2320B Alkalinity										
Duplicate (1904026-DUP1)	Source: E191406-02			Prepared &	Analyzed:	04/09/19				
SM 2320B										
Alkalinity, Total (as CaCO3)	30.605	1.0	mg/L		31.371			2.47	10	
Duplicate (1904026-DUP2)	Sou	rce: E191408-	05	Prepared &	z Analyzed:	04/09/19				
SM 2320B										
Alkalinity, Total (as CaCO3)	49.612	1.0	mg/L		49.481			0.264	10	
MRL Verification (1904026-PS1)				Prepared &	z Analyzed:	04/09/19				
SM 2320B										
Alkalinity, Total (as CaCO3)	1.1520	1.0	mg/L	1.0000		115	73-134			MRL-2
Batch 1904031 - C 300.0 Ion Chromat										
Blank (1904031-BLK1)				Prepared: (04/10/19 A	nalyzed: 04	1/15/19			
EPA 300.0										
Sulfate as SO4	U	0.10	mg/L							U
Blank (1904031-BLK2)				Prepared: (04/10/19 Ai	nalyzed: 04	1/15/19			
EPA 300.0										
Sulfate as SO4	U	0.10	mg/L							U
Blank (1904031-BLK3)				Prepared: (04/10/19 A	nalyzed: 04	1/16/19			
EPA 300.0										
Sulfate as SO4	U	0.10	mg/L							U
Blank (1904031-BLK4)				Prepared: (04/10/19 A	nalyzed: 04	1/16/19			
EPA 300.0										
Sulfate as SO4	U	0.10	mg/L							U
LCS (1904031-BS1)				Prepared: (04/10/19 A	nalyzed: 04	1/15/19			
EPA 300.0										
Sulfate as SO4	528.59	0.10	mg/L	500.00		106	90-110			
LCS Dup (1904031-BSD1)				Prepared: (04/10/19 Ai	nalyzed: 04	1/15/19			
EPA 300.0 Sulfate as SO4	532.43	0.10	mg/L	500.00		106	90-110	0.725	10	
Juliane as DOT	332.43	0.10	mg/L	500.00		100	90-110	0.723	10	



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Project: 19-0113, Rockwell International Wheel & Trim - Reported by Daniel Adams

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1904031 - C 300.0 Ion Chromat			_							
Matrix Spike (1904031-MS1)	Source: E191309-02			Prepared: 0	4/10/19 An	nalyzed: 04	/15/19			
EPA 300.0 Sulfate as SO4	253.49	0.10	mg/L	200.00	45.408	104	90-110			
Matrix Spike (1904031-MS2)	Sou	rce: E191404-	01	Prepared: 0	4/10/19 An	nalyzed: 04	/15/19			
EPA 300.0 Sulfate as SO4	290.72	0.10	mg/L	200.00	80.200	105	90-110			
Matrix Spike (1904031-MS3)	Sou	rce: E191403-	02	Prepared: 0	4/10/19 An	nalyzed: 04	/16/19			
EPA 300.0 Sulfate as SO4	218.71	0.10	mg/L	200.00	3.8040	107	90-110			
MRL Verification (1904031-PS1)				Prepared: 0	4/10/19 An	nalyzed: 04	/15/19			
EPA 300.0 Sulfate as SO4	0.077000	0.10	mg/L	0.10000		77.0	70-130			MRL-2, U
Batch 1904040 - C 2320B Alkalinity										
Blank (1904040-BLK1) SM 2320B				Prepared &	Analyzed:	04/15/19				
Alkalinity, Total (as CaCO3)	U	1.0	mg/L							U
LCS (1904040-BS1)				Prepared &	Analyzed:	04/15/19				
SM 2320B Alkalinity, Total (as CaCO3)	51.228	1.0	mg/L	50.000		102	93-114			
LCS Dup (1904040-BSD1)				Prepared &	Analyzed:	04/15/19				
SM 2320B Alkalinity, Total (as CaCO3)	52.195	1.0	mg/L	50.000	•	104	93-114	1.87	10	
Duplicate (1904040-DUP1)	Sou	rce: E191502-	06	Prepared &	Analyzed:	04/15/19				
SM 2320B Alkalinity, Total (as CaCO3)	38.834	1.0	mg/L		38.745			0.229	10	
Duplicate (1904040-DUP2)	Sou	rce: E191503-	07	Prepared &	Analyzed:	04/15/19				
SM 2320B Alkalinity, Total (as CaCO3)	73.228	1.0	mg/L		74.092			1.17	10	



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D.A.K.1. Id. 17-0115

Project: 19-0113, Rockwell International Wheel & Trim - Reported by Daniel Adams

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes	
Batch 1904040 - C 2320B Alkalinity											
MRL Verification (1904040-PS1)				Prepared &	Analyzed:	04/15/19					
SM 2320B Alkalinity, Total (as CaCO3)	1.1030	1.0	mg/L	1.0000		110	73-134			MRL-2	
Batch 1904046 - C 415 TOC Wtr											
Blank (1904046-BLK1)				Prepared: (04/15/19 At	nalyzed: 04	/17/19				
SM 5310B Total Organic Carbon	U	1.0	mg/L							U	
Total Organic Caroon	C	1.0	mg/L							O	
LCS (1904046-BS1)				Prepared: (04/15/19 At	nalyzed: 04	/17/19				
SM 5310B	46.020	1.0	/T	50,000		02.0	00 110				
Total Organic Carbon	46.920	1.0	mg/L	50.000		93.8	90-110				
LCS (1904046-BS2)				Prepared: ()4/15/19 Aı	nalyzed: 04	17/19				
SM 5310B											
Total Organic Carbon	5.0470	1.0	mg/L	5.0000		101	90-110				
LCS Dup (1904046-BSD1)				Prepared: ()4/15/19 Aı	nalyzed: 04	17/19				
SM 5310B											
Total Organic Carbon	45.170	1.0	mg/L	50.000		90.3	90-110	3.80	10		
Matrix Spike (1904046-MS1)	Sour	ce: E191309-	02	Prepared: 04/15/19 Analyzed: 04/17/19							
SM 5310B	46.500	1.0	/T	50.000	1.3740	90.3	90-110				
Total Organic Carbon	40.300	1.0	mg/L	30.000	1.3740	90.3	90-110				
Matrix Spike (1904046-MS2)	Sour	ce: E191404-	01	Prepared: 04/15/19 Analyzed: 04/17/19							
SM 5310B	45.060	1.0	77	50,000	1.72.40	00.5	00.110			0)(1	
Total Organic Carbon	45.960	1.0	mg/L	50.000	1.7340	88.5	90-110			QM-1	
Matrix Spike Dup (1904046-MSD1)	Sour	ce: E191309-	02	Prepared: 04/15/19 Analyzed: 04/17/19							
SM 5310B											
Total Organic Carbon	46.360	1.0	mg/L	50.000	1.3740	90.0	90-110	0.302	10		
Matrix Spike Dup (1904046-MSD2)	Sour	ce: E191404-	01	Prepared: ()4/15/19 Aı	nalyzed: 04	17/19				
SM 5310B				*							
Total Organic Carbon	46.950	1.0	mg/L	50.000	1.7340	90.4	90-110	2.13	10		



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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1904046 - C 415 TOC Wtr										
MRL Verification (1904046-PS1)				Prepared: (04/15/19 Ar	nalyzed: 04	/17/19			
SM 5310B										
Total Organic Carbon	1.2320	1.0	mg/L	1.0000		123	70-130			MRL-2
Batch 1904048 - C 353.2 NO3-NO2										
Blank (1904048-BLK1)				Prepared: (04/16/19 Ar	nalyzed: 04	/17/19			
EPA 353.2										
Nitrate/Nitrite as N	U	0.050	mg/L							U
LCS (1904048-BS1)				Prepared: ()4/16/19 Ar	nalyzed: 04	/17/19			
EPA 353.2										
Nitrate/Nitrite as N	0.48710	0.050	mg/L	0.49950		97.5	90-110			
Matrix Spike (1904048-MS1)	Source	ce: E191401-	09	Prepared: (04/16/19 Ar	nalyzed: 04	17/19			
EPA 353.2										
Nitrate/Nitrite as N	0.47680	0.050	mg/L	0.49950	0.014900	92.5	90-110			
Matrix Spike (1904048-MS2)	Source	ce: E191502-	06	Prepared: ()4/16/19 Ar	nalyzed: 04	/17/19			
EPA 353.2										
Nitrate/Nitrite as N	1.1487	0.050	mg/L	0.49950	0.66000	97.8	90-110			
Matrix Spike Dup (1904048-MSD1)	Source	ce: E191401-	09	Prepared: 04/16/19 Analyzed: 04/17/19						
EPA 353.2										
Nitrate/Nitrite as N	0.48560	0.050	mg/L	0.49950	0.014900	94.2	90-110	1.83	10	
Matrix Spike Dup (1904048-MSD2)	Source	ce: E191502-	06	Prepared: (04/16/19 Ar	nalyzed: 04	17/19			
EPA 353.2										
Nitrate/Nitrite as N	1.1610	0.050	mg/L	0.49950	0.66000	100	90-110	1.07	10	
MRL Verification (1904048-PS1)				Prepared: ()4/16/19 Ar	nalyzed: 04	/17/19			
EPA 353.2										
Nitrate/Nitrite as N	0.049900	0.050	mg/L	0.050000		99.8	70-130			MRL-2, U
Batch 1904058 - C ASB107C TOC										
Blank (1904058-BLK1)				Drangrad. ()4/19/19 Ar	nalwzed: 04	1/25/10			



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		Spike Source			%REC					
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes
Batch 1904058 - C ASB107C TOC										
Blank (1904058-BLK1)				Prepared: ()4/19/19 A	nalyzed: 04	/25/19			
Total Organic Carbon	U	12000	mg/kg dry							U
LCS (1904058-BS1)				Prepared: ()4/19/19 A:	nalyzed: 04	1/25/19			
ASB 107C										
Total Organic Carbon	41164	12000	mg/kg dry	40896		101	90-110			
Matrix Spike (1904058-MS1)	Source	ce: E191309)-01	Prepared: 04/19/19 Analyzed: 04/25/19						
ASB 107C				-						
Total Organic Carbon	41115	12000	mg/kg dry	40280	U	102	90-110			
Matrix Spike Dup (1904058-MSD1)	Source	ce: E191309)-01	Prepared: (
ASB 107C										
Total Organic Carbon	41431	12000	mg/kg dry	40766	U	102	90-110	0.432	20	
MRL Verification (1904058-PS1)				Prepared: ()4/19/19 A:	nalyzed: 04	1/25/19			
ASB 107C										
Total Organic Carbon	12132	12000	mg/kg dry	11680		104	85-115			MRL-3



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Notes and Definitions for QC Samples

MRL-2 MRL verification for Non-Potable Water matrix

MRL-3 MRL verification for Soil matrix

QM-1 Matrix Spike Recovery less than method control limits